

Patent Abstracts of Japan

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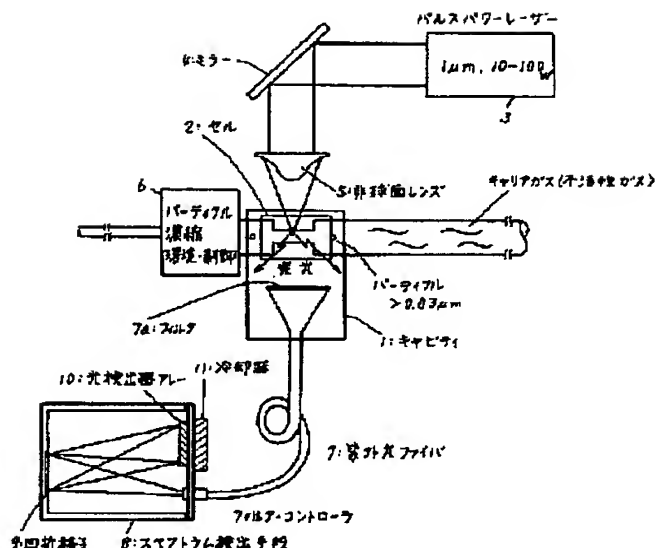
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TITLE : EQUIPMENT FOR MEASURING MICRO PARTICLE



ABSTRACT : PROBLEM TO BE SOLVED: To analyze an element through a small and inexpensive arrangement by heating micro particles through irradiation with laser light, passing an emitted light through a filter in order to block intrusion of the laser light and subjecting to spectroscopy before being detected by a photodetector.

SOLUTION: The micro particle measuring equipment for analyzing the components of micro particles floating in the air comprises a cavity 1 for receiving a cell 2, a laser emitter 3, a micro particle introduction means 6 employing a cyclon, an optical fiber 7 preferably transmitting up to vacuum ultraviolet rays provided with a filter 7a for blocking intrusion of laser light at the funnel-like end part thereof, and a detection means comprising a diffraction grating 9 and a photodetector array 10. Micro particles carried on He gas, or the like, into the cell 2 from the introduction means 6 are thermally irradiated with a pulse laser of specified power to emit a light. Magnitude of the micro particle is measured from the intensity of plasma emission occurring in the early stage and the components are measured from following atomic emission. Alternatively, the micro particles may be heated by injecting microwave into the cavity 1.

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